

Title (en)

METHODS AND APPARATUS FOR 3D PRINTED HYDROGEL MATERIALS

Title (de)

VERFAHREN UND VORRICHTUNG FÜR 3D-GEDRUCKTE HYDROGELMATERIALIEN

Title (fr)

PROCÉDÉS ET APPAREILS DESTINÉS À DES MATÉRIAUX HYDROGELS IMPRIMÉS EN 3D

Publication

EP 3408073 B1 20210127 (EN)

Application

EP 17706914 A 20170127

Priority

- US 201662288043 P 20160128
- US 2017015263 W 20170127

Abstract (en)

[origin: US2017217091A1] There is provided a 3D printing system, methods, and materials for the 3D printing of objects that include a cured hydrogel material, an uncured hydrogel material, and a support material. The cured hydrogel material may define a scaffold for organs or other biological structures. The 3D printing system selectively deposits the hydrogel material and support material, dries the hydrogel material, and selectively applies a catalyst to the hydrogel material to selectively cure the hydrogel material. Once the 3D printing has completed, the uncured hydrogel material may be drained and the support material may be melted or dissolved leaving a scaffold of cured hydrogel material that may be infused with living cells of the desired organ or biological structure.

IPC 8 full level

B29C 67/00 (2017.01); **A61L 27/38** (2006.01); **B33Y 10/00** (2015.01); **B33Y 30/00** (2015.01); **B33Y 80/00** (2015.01); **B41J 3/00** (2006.01); **B41J 3/407** (2006.01); **C12M 1/00** (2006.01); **C12M 3/00** (2006.01)

CPC (source: EP US)

A61L 27/24 (2013.01 - US); **A61L 27/38** (2013.01 - EP US); **A61L 27/52** (2013.01 - EP US); **B29C 35/0805** (2013.01 - US); **B29C 64/106** (2017.07 - EP US); **B29C 64/112** (2017.07 - EP US); **B29C 64/129** (2017.07 - EP US); **B29C 64/188** (2017.07 - EP US); **B29C 64/194** (2017.07 - US); **B29C 64/35** (2017.07 - EP US); **B29C 64/386** (2017.07 - EP US); **B29C 64/40** (2017.07 - EP US); **B33Y 10/00** (2014.12 - EP US); **B33Y 30/00** (2014.12 - EP US); **B33Y 70/00** (2014.12 - EP US); **B33Y 80/00** (2014.12 - EP US); **C12M 21/00** (2013.01 - EP US); **C12M 21/08** (2013.01 - EP US); **B29C 2035/0833** (2013.01 - US); **B29K 2105/0061** (2013.01 - US); **B29K 2995/0056** (2013.01 - US); **B29L 2031/7532** (2013.01 - EP US)

Citation (examination)

- US 2015131074 A1 20150514 - EBERT JÖRG [CH], et al
- US 2015151487 A1 20150604 - LEIGHTON ROGER [US], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

US 2017217091 A1 20170803; CN 108883572 A 20181123; CN 108883572 B 20210625; EP 3408073 A1 20181205; EP 3408073 B1 20210127; JP 2019503290 A 20190207; JP 2021045598 A 20210325; JP 6850808 B2 20210331; JP 7157126 B2 20221019; US 11305480 B2 20220419; US 2020230939 A1 20200723; WO 2017132464 A1 20170803

DOCDB simple family (application)

US 201715417616 A 20170127; CN 201780020996 A 20170127; EP 17706914 A 20170127; JP 2018538152 A 20170127; JP 2020202465 A 20201207; US 2017015263 W 20170127; US 202016843492 A 20200408